Ordering number: EN 1358D

Monolithic Digital IC

SANYO No. 1358D

LB1642

Bidirectional Motor Driver with Braking Function

The LB1642 is a bidirectional motor driver IC. It is especially suited for use in motor drive applications where the arm control function of players and the auto reverse function of cassette decks are performed.

Features

- On-chip braking function
- On-chip diode to absorb dash current
- Wide operating voltage range (4 to 16V)
- Direct drivable with TTL

Absolute Maximum Ratings at Ta=25°C

				unit
Maximum Supply Voltage	$V_{CC}max$		18	V
Input Voltage	V_{IN}		-0.3 to V_{CC}	V
Output Current	I_Omax	t=5ms,Cycle=0.2Hz or less	0.7	A
Allowable Power Dissipation	Pdmax		1.0	W
Operating Temperature	Topr		-25 to +75	°C
Storage Temperature	Tstg		-55 to +125	°C

Allowable Operating Conditions at Ta=25°C

			unit
Supply Voltage	V_{CC}	4 to 16	V
"H"-Level Input Voltage	V_{IH}	2 to V_{CC}	V
"L"-Level Input Voltage	V_{IL}	-0.3 to +0.4	V
Output Current	I_O	-100 to +100	mA
Forward Reverse Inhibit Time	T_{OFF}	10 or more	µs

Electrical Characteristics at Ta=25°C, V_{CC}=V_{CC}'=12V

			min	typ	max	unit
"H"-Level Output Voltage 1	V_{OH1}	V_{I1} or V_{I2}=2V, I_O=-50mA	11.0			V
"H"-Level Output Voltage 2	V_{OH2}	V_{I1} or V_{I2}=2V, I_O=-100mA	10.9			V
"L"-Level Output Voltage 1	V_{OL1}	V_{I1} or V_{I2}=2V, I_O=50mA			0.3	V
"L"-Level Output Voltage 2	V_{OL2}	V_{I1} or V_{I2}=2V, I_O=100mA			0.35	V
Interoutput Voltage	$V_{O1}-V_{O2}$	V_{I1} or V_{I2}=2V, I_O=±100mA	10.6			V
Input Current	I_I	V_I=2V		70	200	µA
Output Leakage Current	I_OLeak	V_{CC}=V_{CC}'=18V, V_O=0V, V_{IN1}=V_{IN2}=0V, V_O=18V			±100	µA

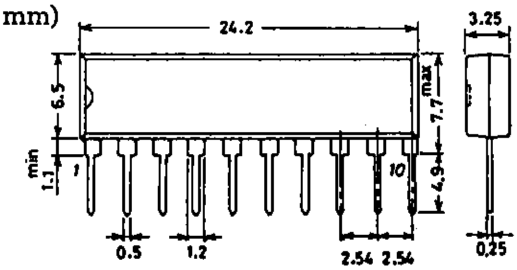
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Control Mode

Input 1	Input 2	Output 1	Output 2	Remarks
0	0	-	-	Open
1	0	1	0	Forward drive
0	1	0	1	Reverse drive
1	1	0	0	Braking

Package Dimensions 3043A

(unit: mm)

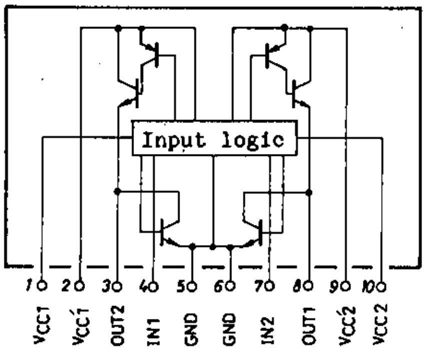


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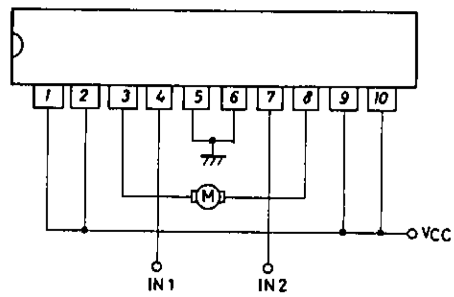
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			min	typ	max	unit
Current Dissipation	I_{CC}	V_{IN1}=2V or V_{IN2}=2V, V_{CC}=V_{CC}'=16V			30	mA
"	"	V_{IN1}=V_{IN2}=2V, V_{CC}=V_{CC}'=16V			60	mA

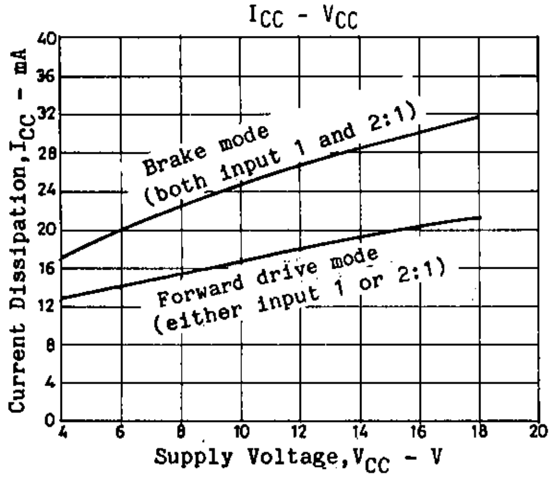
Equivalent Circuit Block Diagram



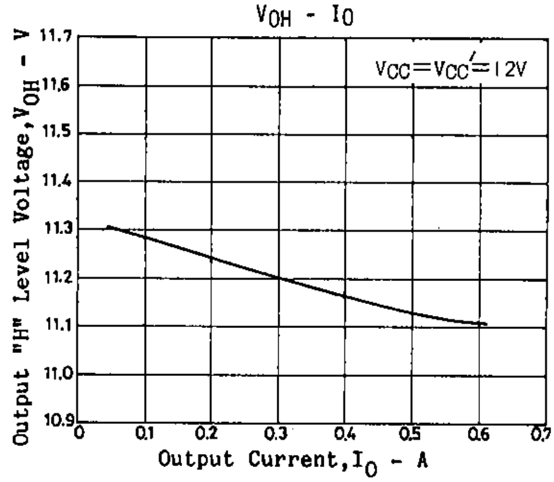
Sample Application Circuit



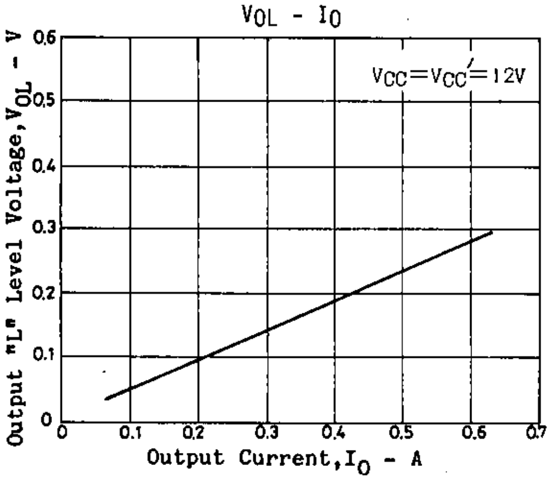
I_{CC} - V_{CC}



V_{OH} - I_O



V_{OL} - I_O



P_d max - T_a

